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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,147	01/16/2002	Mitsuyoshi Ichihashi	Q67100	3694

7590 12/18/2003

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EXAMINER	
DUONG, THOI V	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/046,147	ICHIHASHI ET AL.	
	Examiner	Art Unit	
	Thoi V Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 23 September 2003.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 10-20 is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This office action is in response to the Response filed September 23, 2003.

Accordingly, a certified transtation of Applicants' priority document (JP 10534/2001) was submitted by Applicants.

Currently, claims 1-20 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to the rejection(s)of claim(s) 1-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Okada et al. (USPN 6,549,261 B1) and Fujimori et al. (USPN 5,771,084).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (USPN 6,549,261 B1) in view of Fujimori et al. (USPN 5,771,084).

Okada et al. discloses a method for producing a cholesteric liquid crystal color filter, the method comprising the step of:

(a) forming a liquid crystal layer comprising a cholesteric liquid crystal composition that contains at least a liquid crystal compound, a photoreactive chiral dopant, and a polymerization initiator (col. 11, line 60 through col. 12, line 12); and

(b) forming pixels at the liquid crystal layer (col. 1, lines 11-17),

wherein the cholesteric liquid crystal composition comprises a nematic liquid crystal compound in an amount of 76 % by mass relative to the mass of solids of the liquid crystal composition (col. 11, line 60 through col. 12, line 12);

wherein the cholesteric liquid crystal composition comprises the photoreactive chiral dopant in an amount of 8 % by mass relative to the mass of solids of the liquid crystal composition (col. 11, line 60 through col. 12, line 12); and

wherein the cholesteric liquid crystal composition comprises the polymerization initiator in an amount of 3 % by mass relative to the mass of solids of the liquid crystal composition (col. 11, line 60 through col. 12, line 12).

Okada et al. discloses a method for producing a cholesteric liquid crystal color filter that is basically the same as that recited in claims 1-4, 10 and 16 except for forming partition walls at portions corresponding to a boundary of each of the pixels.

As shown in Figs. 1A, 1B and 3, Fujimori et al. discloses a method for forming a liquid crystal layer comprising a cholesteric liquid crystal composition that contains at least a liquid crystal compound, a photoreactive chiral dopant, and a polymerization initiator; and producing partition walls 4 by irradiating the portions through a mask 30 with ultraviolet light at a wavelength 365 nm to which the polymerization initiator is photosensitive while the liquid crystal layer is in an amorphous solid state or a microcrystalline state (col. 5, line 4 through col. 6, line 8).

5. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al. (USPN 6,573,961 B2) in view of JP 362106407A (JP'407) as applied to claims 1-4 above and further in view of Baba et al. (USPN 6,344,300 B1).

The method for producing a cholesteric liquid crystal color filter of Okada et al. as modified in view of Fujimori et al. above includes all that is recited in claims 5-9 except for a polymerizable monomer, a binder resin and a surfactant. Baba et al. discloses a method of manufacturing color filter comprising photosensitive composition as follows:

a polymerizable monomer in an amount of 20 to 70 % by mass relative to the mass of solids of the liquid crystal composition (col. 4, lines 60 through col. 5, line 19);

a binder resin in an amount of 20 to 70 % by mass relative to the mass of solids of the liquid crystal composition, wherein the binder resin is a binder resin having a carboxyl group at a side chain (col. 4, lines 11-59); and

a nonionic surfactant is incorporated in the liquid crystal layer in an amount of 0.1 to 5 % by mass (col. 8, lines 36-58).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Okada et al. with the teaching of Baba et al. by using a photosensitive coloring composition so as to minimize the amount of development residue remaining on a transparent portion of a substrate after development (col. 2, lines 23-32).

Allowable Subject Matter

6. Claims 10-20 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claims 10 and 16, none of the prior art of record discloses, in combination with other limitations as claimed, a method for producing a CLC color filter comprising the step of forming partition walls at portions corresponding to a boundary of each of pixels or forming pixels while the liquid crystal layer is an amorphous state or a microcrystalline state.

The most relevant reference, JP 2001-303057, discloses a similar method for producing a CLC color filter; however, this reference is overcome by Applicants' priority document (JP 10534.2001).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong

12/15/2003

T. Chowdhury
Primary Examiner